AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A focus monitor method comprising:

preparing a mask comprising a first and second focus monitor patterns and an exposure monitor pattern, the first and second focus monitor patterns being used to form first and second focus monitor marks having dimensions variable depending on a defocus amount on a wafer, [[a]] defocus amount dependency of the dimension of the first focus monitor mark being different ~~form a defocus amount dependency of dimension~~ from defocus amount dependency of the dimension of the second focus monitor mark, and the exposure monitor pattern being used to form exposure meters having dimensions variable depending on an effective exposure on the wafer;

obtaining [[a]] exposure dependency of a relationship ~~relationships~~ between [[a]] the dimensions of the first and second focus monitor marks and the defocus amount;

forming the first and second focus monitor marks and the exposure ~~monitor marks~~ meters on the wafer by using the mask;

measuring [[a]] the dimensions of the exposure ~~monitor marks~~ meters to obtain [[an]] the effective exposure;

selecting a relationship, corresponding to the effective exposure, between the dimensions of the first and second focus monitor marks and the defocus amount ~~corresponding to the effective exposure~~ in accordance with the obtained effective exposure and the exposure dependency of the relationship ~~relationships~~ between the

~~dimension~~ dimensions of the first and second focus monitor marks and the defocus amount;

measuring [[a]] the dimensions ~~dimension~~ of the first and second focus monitor marks; and

obtaining [[a]] the defocus amount in accordance with the measured dimensions of the first and second focus monitor marks and the relationship, corresponding to the effective exposure, between the ~~dimension~~ dimensions of the first and second focus monitor marks and the defocus amount ~~corresponding to the effective exposure~~.

2. (Currently Amended) The focus monitor method according to claim 1, wherein

the first monitor pattern is constituted by a first opening surrounded by a shielding portion or constituted by the shielding portion surrounded by the first opening;

the second monitor pattern ~~which~~ is constituted by a second opening surrounded by a translucent film or constituted by the translucent film surrounded by the second opening, and ~~is capable of giving~~ a phase difference [[to]] is provided between an exposure light passing through said translucent film ~~relative to~~ and an exposure light passing through said second opening; and

the relationship between the dimensions of the first and second focus monitor marks and the defocus amount is a relationship between a difference or a ratio ~~between a dimension of the first monitor pattern and a dimension of the second monitor pattern~~ and the defocus amount, said difference and ratio concerning those between dimensions of the first and second monitor patterns.

3. (Original) The focus monitor method according to claim 2, wherein the first and second monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

4. (Original) The focus monitor method according to claim 2, wherein a difference L between the dimension of the first monitor pattern and the dimension of the second monitor pattern, a defocus amount F, and an exposure E are expressed by

$$L = \sum_{n=0} a_n E_n * F + \sum_{n=0} a'_n E^n,$$

where "a" represents a coefficient and "n" represents an integer.

5. (Currently Amended) The focus monitor method according to claim 1, wherein

the first ~~pattern~~ monitor pattern is constituted by a first translucent film surrounded by a first opening ~~portion~~ or constituted by the first opening ~~portion~~ surrounded by the first translucent film, and ~~is capable of giving~~ a first phase difference [[to]] is provided between an exposure light passing through said first translucent film ~~relative to~~ and an exposure light passing through said first opening,

the second monitor pattern ~~region comprises at least one second monitor pattern which~~ is constituted by a second translucent film surrounded by a second opening ~~portion~~ or constituted by the second opening ~~portion~~ surrounded by the second translucent film, and ~~is capable of giving~~ a second phase difference different from the first phase difference [[to]] is provided between an exposure light passing through the second translucent film ~~relative to~~ and an exposure light passing through said second opening, and

the relationship between the dimensions of the first and second focus monitor marks and the defocus amount is [[the]] a relationship between a difference or a ratio ~~between a dimension of the first monitor mark and a dimension of the second monitor mark~~ and the defocus amount, said difference and ratio concerning those between dimensions of the first and second monitor patterns.

6. (Original) The focus monitor method according to claim 5, wherein the first and second monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

7. (Currently Amended) The focus monitor method according to claim 1, wherein the exposure monitor pattern ~~including~~ includes a plurality of blocks intermittently or continuously arranged in one direction, each of said plurality of blocks including a shield portion and ~~transmission~~ a translucent portion arranged in said one direction within a constant width p ~~incapable of being resolved in~~ where resolution by a projection exposure apparatus ~~in the direction and having a monotonously changing dimension ratio of the shield portion to the transmission portion of the block in the direction~~ is impossible, the projection exposure apparatus being used for transcribing the exposure monitor pattern on a substrate, the shield portion and the translucent portion monotonously changing in dimension ratio in said one direction.

8. (Amended) The focus monitor method according to claim 7, wherein,

a ~~Pitch~~ pitch P into which the width p is converted by a dimension on the substrate is expressed by

$1/P \geq (1 + \sigma) NA / \lambda$,

where "λ" represents wavelength of [[an]] a light source of the projection ~~aligner~~ exposure apparatus, "NA" represents the number of openings on the side of the substrate of an optical system, and "σ" represents a coherent factor; and

dimensional measurement of the exposure meters is measurement [[for]] of a length of ~~an array direction of~~ the blocks in an array direction.

9. (Original) The focus monitor method according to claim 5, wherein a difference L between the dimension of the first monitor pattern and the dimension of the second monitor pattern, a defocus amount F, and an exposure E are expressed by

$$L = \sum_{n=0} a_n E_n * F + \sum_{n=0} a'_{n=0} E^n$$

where, "a" represents a coefficient and "n" represents an integer.

10. (Currently Amended) A focus monitor method comprising:

preparing a first mask comprising a first and second focus monitor patterns, the first and second focus monitor patterns being used to form first and second focus monitor marks having dimensions variable depending on a defocus amount ~~are formed~~ on a wafer, [[a]] defocus amount dependency of the dimension of the first focus monitor mark being different ~~form a defocus amount dependency of dimension~~ from defocus amount dependency of the dimension of the second focus monitor mark;

forming the first and second focus monitor marks on the wafer with a plurality of exposures;

obtaining a first relationship ~~relationships~~ between [[a]] the dimensions of the first and second focus monitor marks and [[a]] the defocus amount for each of a plurality of exposures ~~dose~~;

obtaining a nonuniformity amount of the first relationships due to a variation in the exposure;

obtaining a second relationship between the first relationship ~~relationships~~ and the exposure when the obtained nonuniformity amount is greater than a predetermined value;

preparing a second mask comprising third and fourth focus monitor patterns and an exposure monitor pattern, the third and fourth focus monitor patterns being used to form third and fourth focus monitor

marks having dimensions variable depending on [[a]] the defocus amount ~~are formed~~ on the wafer, [[a]] defocus amount dependency of the dimension of the ~~first~~ third focus monitor mark being different ~~form a defocus amount dependency of dimension~~ from that of the ~~second~~ fourth focus monitor mark, and the exposure monitor pattern being used to form exposure meters having dimensions variable depending on an effective exposure on the wafer;

obtaining a third relationship between the dimensions of [[an]] the exposure ~~meter~~ meters and the exposure;

forming the third and fourth focus monitor marks and the exposure meters on the wafer by using the second mask;

measuring the dimensions of the exposure ~~meter~~ meters;

obtaining [[an]] the effective exposure from the measured dimensions of the exposure ~~meter~~ meters and the third relationship;

selecting a fourth relationship, corresponding to the effective exposure, between the ~~dimension~~ dimensions of the third and fourth focus monitor marks and the defocus amount ~~corresponding to the effective exposure from~~ in accordance with the obtained effective exposure and the second relationship;

measuring the dimensions of the third and fourth focus monitor marks; and

obtaining [[a]] the defocus amount in accordance with the measured ~~dimension~~ dimensions of the third and fourth focus monitor marks and the fourth relationship.

11. (Currently Amended) The focus monitor method according to claim 10, wherein:

the first and ~~third~~ second monitor patterns [[is]] are constituted by a first opening surrounded by a shielding portion or constituted by the shielding portion surrounded by the first opening,

[[a]] the third and fourth monitor patterns [[is]] are constituted by a second opening surrounded by a translucent film or constituted by the

translucent film surrounded by the second opening, and ~~is capable of giving~~ a phase difference [[to]] is provided between an exposure light passing through said translucent film ~~relative to~~ and an exposure light passing through said second opening,

the relationship between the dimensions ~~dimension~~ of the first and second focus monitor marks and the defocus amount is [[the]] a relationship between a difference or a ratio ~~between the dimension of the first monitor mark and the dimension of the second monitor mark~~ and the defocus amount, said difference and ratio concerning those between dimensions of the first and second monitor patterns, and

the relationship between the dimensions ~~dimension~~ of the third and fourth focus monitor marks and the defocus amount ~~are the~~ is a relationship between a difference or a ratio ~~between the dimension of the third monitor pattern and the dimension of the fourth monitor pattern~~ and the defocus amount, said difference and ratio concerning those between dimensions of the third and fourth monitor patterns.

12. (Original) The focus monitor method according to claim 11, wherein the first and second monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

13. (Original) The focus monitor method according to claim 11, wherein a difference L between the dimension of the first monitor pattern in a first patter region and the dimension of the second monitor pattern in a second patter region, a defocus amount F, and an exposure E are expressed by

$$L = \sum_{n=0} a_n E_n * F + \sum_{n=0} a'_{n=0} E^n$$

where, "a" represents a coefficient and "n" represents an integer.

14. (Currently Amended) The focus monitor method according to claim 10, wherein

the first and third monitor patterns [[is]] are constituted by a first translucent film surrounded by a first opening ~~portion~~ or constituted by the first opening ~~portion~~ surrounded by the first translucent film, and ~~is capable of giving~~ a first phase difference [[to]] is provided between an exposure light passing through said first translucent film ~~relative to~~ and an exposure light passing through said first opening,

the second and fourth monitor patterns [[is]] are each constituted by a second translucent film surrounded by a second opening ~~portion~~ or constituted by the second opening ~~portion~~ surrounded by the second translucent film, and ~~is capable of giving~~ a second phase difference different from the first phase difference [[to]] is provided between an exposure light passing through the second translucent film ~~relative to~~ and an exposure light passing through said second opening,

the relationship between the ~~dimension~~ dimensions of the first and second focus monitor marks and the defocus amount is [[the]] a relationship between a difference or a ratio ~~between the dimension of the first monitor mark and the dimension of the second monitor mark~~ and the defocus amount, said difference and ratio concerning those between dimensions of the first and second monitor patterns, and

the relationship between the dimensions of the third and fourth focus monitor marks and the defocus amount ~~are the~~ is a relationship between a difference or a ratio ~~between the dimension of the third monitor pattern and the dimension of the fourth monitor pattern~~ and the defocus amount, said difference and ratio concerning those between dimensions of the third and fourth monitor patterns.

15. (Original) The focus monitor method according to claim 14, wherein the first, second, third, and fourth monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

16. (Currently Amended) The focus monitor method according to claim 10, wherein the exposure monitor pattern ~~including~~ includes a plurality of blocks intermittently or continuously arranged in one direction, each of said plurality of blocks including a shield portion and ~~transmission~~ a translucent portion arranged in said one direction within a constant width p ~~incapable of being resolved in~~ where resolution by a projection exposure apparatus ~~in the direction and having a monotonously changing dimension ratio of the shield portion to the transmission portion of the block in the direction~~ is impossible, the projection exposure apparatus being used for transcribing the exposure monitor pattern on a substrate, the shield portion and the translucent portion monotonously changing in dimension ratio in said one direction.

17. (Currently Amended) The focus monitor method according to claim 16, wherein,

a ~~Pitch~~ pitch P into which the width p is converted by a dimension on the substrate is expressed by

$1/P \geq (1 + \sigma)\ NA / \lambda$,

where "λ" represents wavelength of [[an]] a light source of the projection ~~aligner~~ exposure apparatus, "NA" represents the number of openings on the side of the substrate of an optical system, and "σ" represents a coherent factor; and

dimensional measurement of the exposure meters is measurement [[for]] of a length of ~~an array direction of~~ the blocks in an array direction.

18. (Currently Amended) The focus monitor method according to claim 14, wherein [[the]] a difference L between the dimension of the first monitor pattern and the dimension of the second monitor pattern, a defocus amount F, and an exposure E are expressed by

$$L = \sum_{n=0} a_n E_n * F + \sum_{n=0} a'_n = 0 E^n$$

where, "a" represents a coefficient and "n" represents an integer.

19. (Currently Amended) A mask comprising:

a device region wherein a device pattern is formed;

a first pattern region having at least one first monitor pattern which is constituted by a first opening surrounded by a shielding portion or constituted by the shielding portion surrounded by the first opening;

a second pattern region having at least one second monitor pattern which is constituted by a second opening surrounded by a translucent film or constituted by the translucent film surrounded by the second opening, and ~~is capable of giving~~ a phase difference [[to]] being provided between an exposure light passing through said translucent film ~~relative to~~ and an exposure light passing through said second opening; and

a third pattern region including a plurality of blocks intermittently or continuously arranged in one direction, each of said plurality of blocks including a shield portion and ~~transmission~~ a translucent portion arranged in said one direction within a constant width p, the shield portion and the translucent portion monotonously changing in dimension ratio in said one direction, ~~incapable of being resolved in a projection exposure apparatus in the direction and having a monotonously changing dimension ratio of the shield portion to the transmission portion of the block in the direction,~~

wherein one of the first pattern region and the second pattern region is formed at least in the device region.

20. (Original) The mask according to claim 19, wherein the first and second monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

21. (Currently Amended) A mask comprising:

a device region wherein a device pattern is formed;

a first pattern region ~~comprises~~ comprising at least one first monitor pattern which is constituted by a first translucent film surrounded by a first opening ~~portion~~ or constituted by the first opening ~~portion~~ surrounded by the first translucent film, and ~~is capable of giving~~ a first phase difference [[to]] being provided between an exposure light passing through said first translucent film ~~relative to~~ and an exposure light passing through said first opening;

a second pattern region ~~comprises~~ comprising at least one second monitor pattern which constituted by a second translucent film surrounded by a second opening ~~portion~~ or constituted by the second opening ~~portion~~ surrounded by the second translucent film, and ~~is capable of giving~~ a second phase difference different from the first phase difference [[to]] being provided between an exposure light passing through the second translucent film ~~relative to~~ and an exposure light passing through said second opening; and

a third pattern region including a plurality of blocks intermittently or continuously arranged in one direction, each of said plurality of blocks including a shield portion and ~~transmission~~ a translucent portion arranged in said one direction within a constant width p, the shield portion and the translucent portion monotonously changing in dimension ratio in said one direction, ~~incapable of being resolved in~~

~~a projection exposure apparatus in the direction and having a monotonously changing dimension ratio of the shield portion to the transmission portion of the block in the direction,~~

wherein one of the first pattern region and the second pattern region is formed at least in the device region.

22. (Original) The mask according to claim 21, wherein the first and second monitor patterns each have a shape wherein both end portions are tapered along one direction with respect to a central portion thereof.

23. (Original) A method for manufacturing a semiconductor device, comprising:
preparing the mask as defined in claim 19; and
transferring to a semiconductor substrate the device pattern formed in the mask.

24. (Original) A method for manufacturing a semiconductor device, comprising:
preparing the mask as defined in claim 21; and
transferring to a semiconductor substrate the device pattern formed in the mask.